

REMARKS/ARGUMENTS

Claims 1-18 are pending. By this Amendment, claims 3 and 4 are cancelled, and claim 1 is amended. Support for the amendments to claim 1 can be found, for example, in original claims 1, 3 and 4. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 1-18 under 35 U.S.C. §103(a) over WO 02/02684 to Malz et al. ("Malz")* in view of U.S. Patent No. 5,175,349 to Gupta et al. ("Gupta").

Applicants respectfully traverse the rejection.

Claim 1 recites "[a] mixture comprising: (a) isocyanate; and (b) stabilizers with a molar mass of from 600 to 10000 g/mol that comprise at least two phenolic groups; wherein: the at least two phenolic groups are active ingredient groups bonded by way of a bonding radical; and a number-average molecular weight (Mn) of the bonding radical is less than a weight-average molecular weight of the bonding radical" (emphasis added). Claim 2 recites "[a] mixture comprising: (a) isocyanate; and (b) stabilizers that comprise at least two phenolic groups bonded to one another by way of, as a bonding radical, a polyol with a number-average molecular weight of from 40 × F to 1000 × F g/mol, wherein F is a number of phenolic groups in the molecule" (emphasis added). Claim 5 recites "[a] mixture comprising: (a) isocyanate; and (b) a stabilizer comprising at least one compound given by formula (X) and/or (XX) ..." (emphasis added). Malz and Gupta do not disclose or suggest such mixtures.

Each of claims 1, 2 and 5 is directed to a combination of isocyanate and particular stabilizers. Malz discloses stabilizers for thermoplastic polyurethanes that include

* Discussion of Malz is made with reference to U.S. Patent No. 6,995,230, which the Office Action asserts is an English-language equivalent of Malz.

compounds that are similar in structure to the stabilizers in claims 1, 2 and 5. *See, e.g., Malz, Abstract.* However, Malz does not disclose using such stabilizers to stabilize isocyanates – in Malz, thermoplastic polyurethanes are stabilized.

Gupta discloses using 4-hydroxyphenyl propionic acid compounds to stabilize polyisocyanates. *See Gupta*, column 1, lines 5 to 7. Gupta does not disclose the stabilizers of claims 1, 2 or 5, or indicate that the disclosed stabilizers could or should be used to stabilize thermoplastic polyurethanes.

That is, Malz discloses stabilizers for thermoplastic polyurethanes and Gupta discloses stabilizers for polyisocyanates. There is nothing in either reference that suggests that the stabilizers of Malz and Gupta are interchangeable. As noted previously, a proposed modification or combination must be supported by a "reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (U.S. 2007). The Office Action asserts that it would have been obvious to substitute the stabilizers of Malz for the stabilizers of Gupta because the stabilizers of Gupta are phenolic stabilizers and Malz indicates that the disclosed stabilizers are alternatives to phenolic stabilizers. *See* Office Action, page 3. However, this assertion undercuts the actual teachings of Malz. Malz indicates that the disclosed stabilizers are alternatives to phenolic stabilizers in stabilizing thermoplastic polyurethanes. *See Malz*, column 1, lines 20 to 27. Again, there is nothing in the cited references that would have led a skilled artisan to use the thermoplastic polyurethane stabilizers of Malz to stabilize polyisocyanates as in Gupta.

Applicants further note that claim 1 is amended to specifically require that the recited stabilizer include at least two phenolic groups that are active ingredient groups bonded by way of a bonding radical, and that a number-average molecular weight (Mn) of the bonding radical is less than a weight-average molecular weight of the bonding radical. Even if one of

ordinary skill in the art would conclude that the stabilizers of Malz could be used to stabilize polyisocyanates as in Gupta (which Applicants do not admit), there is nothing in the cited reference that would have led the skilled artisan to select a stabilizer having the particular structural and weight requirements recited in claim 1 (or claims 2 and 5 for that matter) for use in stabilizing polyisocyanates. The mixtures of claims 1, 2 and 5 are unique.

As discussed previously, even if a *prima facie* case were made, such case is rebutted by the results shown in the present specification – "[a] *prima facie* case of obviousness ... is rebuttable by proof that the claimed compounds possess unexpectedly advantageous or superior properties." *See* MPEP §2144.09 (citing *In re Papesch*, 315 F.2d 381 (C.C.P.A. 1963)). For example, the Examples of the present specification demonstrate that mixtures such as recited in claim 1, 2 and 5 show dramatically superior performance in resisting discoloration in comparison to mixtures of isocyanate and known stabilizers, such as disclosed in Gupta. *See, e.g.*, present specification, page 11, Table 1. These results are objective evidence of the improvements of the mixtures of claims 1, 2 and 5 over known mixtures, as in Gupta, and thus these results rebut any suggestion that it would have been obvious to modify the mixtures of Gupta by incorporating the stabilizers of Malz.

The Office Action has taken the position that the results are not unexpected because Malz indicates that the disclosed stabilizers are better than known stabilizers. *See* Office Action, page 4. Again, this assertion undercuts the actual teachings of Malz. Malz teaches that the disclosed stabilizers are better than known stabilizers for stabilizing thermoplastic polyurethanes. *See* Malz, column 1, lines 44 to 47. The Office Action fails to provide any explanation for why one of ordinary skill in the art would have expected the stabilizers of claims 1, 2 and 5 to provide superior performance in stabilizing polyisocyanates. Applicants respectfully request that the evidence in the present specification be given its due weight.

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As explained, claim 1 would not have been rendered obvious by Malz and Gupta.

Claims 2-18 depend from claim 1 and, thus, also would not have been rendered obvious by Malz and Gupta. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

For the foregoing reasons, Applicants submit that claims 1, 2 and 5-18 are in condition for allowance. Prompt reconsideration and allowance are respectfully requested.

Respectfully submitted,

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